

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
LUFKIN DIVISION

GRANTLEY PATENT HOLDINGS, LTD.	§	
(a Texas Limited partnership)	§	
	§	
<i>Plaintiff,</i>	§	Civil Action No. 9:06CV259
	§	
v.	§	
	§	JUDGE RON CLARK/
CLEAR CHANNEL COMMUNICATIONS,	§	JUDGE KEITH GIBLIN
INC., ET. AL.,	§	
	§	
<i>Defendants.</i>	§	

**MEMORANDUM OPINION AND ORDER CONSTRUING CLAIM TERMS OF
UNITED STATES PATENT NOS. 6,061,691; 6,253,187; 6,567,824; AND 6,920,464**

Plaintiff Grantley Patent Holdings, Ltd. (“Grantley”) filed suit against Defendants Clear Channel Communications, Inc.; Clear Channel Management Services, LP; Ackerley Broadcasting Fresno, Inc.; Ackerley Broadcasting Operations, LLC; AMFM Broadcasting, Inc.; Capstar Radio Operating Company; Citicasters Company; Clear Channel Broadcasting, Inc.; Jacor Broadcasting Corporation; and Jacor Broadcasting of Colorado, Inc. (collectively “Clear Channel”) claiming infringement of United States Patent Nos. 6,061, 691 (“the ‘691 patent”), 6,253,187 (“the ‘187 patent”); 6,567,824 (“the ‘824 patent”); and 6,920,464 (“the ‘464 patent”). The court conducted a *Markman* hearing on October 10, 2007 to assist the court in interpreting the meaning of the claim terms of the patents-in-suit.

Having carefully considered the patents, the prosecution history, the briefs, and the arguments, the court now makes the following findings and construes the disputed patent terms.¹

¹The transcript of the hearing contains a number of representations and agreements of the parties and their answers to technical questions from the court, all of which will not be repeated here, but which assisted the court in reaching the conclusions set out in this Order. This Order governs in the event of any conflict between the Order and the court’s preliminary analysis at the

I. CLAIM CONSTRUCTION STANDARD OF REVIEW

Claim construction is a matter of law. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 116 S. Ct. 1384 (1996) (“*Markman II*”). “The duty of the trial judge is to determine the meaning of the claims at issue, and to instruct the jury accordingly.” *Exxon Chem. Patents, Inc. v. Lubrizoil Corp.*, 64 F.3d 1553, 1555 (Fed. Cir. 1995) (citations omitted), *cert. denied*, 518 U.S. 1020, 116 S.Ct. 2554 (1996).

“‘[T]he claims of the patent define the invention to which the patentee is entitled the right to exclude.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005)(*en banc*)(citation omitted), *cert. denied*, 546 U.S. 1170, 126 S.Ct. 1332 (2006). “Because the patentee is required to ‘define precisely what his invention is,’ it is ‘unjust to the public, as well as an evasion of the law, to construe it in a manner different from the plain import of its terms.’” *Phillips*, 415 F.3d at 1312 (quoting *White v. Dunbar*, 119 U.S. 47, 52 (1886)).

The words of a claim are generally given their ordinary and customary meaning. *Phillips* 415 F.3d at 1312. The “ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.” *Id.* at 1313. Analyzing “how a person of ordinary skill in the art understands a claim term” is the starting point of a proper claim construction. *Id.*

A “person of ordinary skill in the art is deemed to read the claim term not only in context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Phillips*, 415 F.3d at 1313. Where a claim term has a particular meaning in the field of art, the court must examine those sources available to the public to show

hearing. Citations to the *Markman* hearing transcript will be denoted as “Tr. at p. __, ll. __.”

what a person skilled in the art would have understood the disputed claim language to mean. *Id.* at 1414. Those sources “include ‘words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.’” *Id.* (citation omitted).

“[T]he ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.”

Phillips, 415 F.3d at 1314. In these instances, a general purpose dictionary may be helpful. *Id.*

However, the Court emphasized the importance of the specification. “[T]he specification ‘is always highly relevant to the claim construction analysis. Usually it is dispositive; it is the single best guide to the meaning of a disputed term.’” *Phillips*, 415 F.3d at 1315 (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). A court is authorized to review extrinsic evidence, such as dictionaries, inventor testimony, and learned treatises. *Phillips*, 415 F.3d at 1317. But their use should be limited to edification purposes. *Id.* at 1319.

The intrinsic evidence, that is, the patent specification, and, if in evidence, the prosecution history, may clarify whether the patentee clearly intended a meaning different from the ordinary meaning, or clearly disavowed the ordinary meaning in favor of some special meaning. See *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979-80 (Fed. Cir. 1995); *aff’d*, 517 U.S. 370, 116 S.Ct. 1384 (1996). Claim terms take on their ordinary and accustomed meanings unless the patentee demonstrated “clear intent” to deviate from the ordinary and accustomed meaning of a claim term by redefining the term in the patent specification. *Johnson Worldwide Assoc., Inc. v. Zebco Corp.*, 175 F.3d 985, 990 (Fed. Cir. 1999).

The “‘ordinary meaning’ of a claim term is its meaning to the ordinary artisan after reading the entire patent.” *Phillips*, 415 F.3d at 1321. However, the patentee may deviate from the plain and ordinary meaning by characterizing the invention in the prosecution history using words or expressions of manifest exclusion or restriction, representing a “clear disavowal” of claim scope. *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1327 (Fed. Cir. 2002). It is clear that if the patentee clearly intended to be its own lexicographer, the “inventor’s lexicography governs.” *Phillips*, 415 F.3d at 1316.

II. PATENT BACKGROUND AND TECHNOLOGY

The ‘691, ‘187, ‘824, and ‘464 patents generally relate to methods and systems of integrating a radio station’s traffic-billing and yield management systems, as well as inventory management and revenue projection. All four patents share the same specification, and are all continuations-in-part of an earlier application, which resulted in a patent not in dispute, U.S. Patent No. 6,260,047. Each patent claims different aspects of the disclosed systems and methods. Identical provisions of the specification for each patent have different column and line designations due to spacing changes in printing. Therefore, unless otherwise noted, references to the specification will be made only to the column and page number of the ‘691 patent.

The ‘691 patent is directed to an inventory management system that automatically updates inventory levels for the purpose of price recalculation after each order or reservation. The ‘187 patent covers an integrated system for accessing and managing the inventory of advertising time slots for multiple media stations. The ‘824 patent is a continuation of the ‘187 patent and a continuation-in-part of the ‘047 patent, but the claims each describe a “method,” whereas the ‘187 patent claims each describe a “system.” Finally, the ‘464 patent is a

continuation of the '187 and the '824 patents and claims various systems.

One of Ordinary Skill in the Art

One of ordinary skill in the art in this case would have to understand basic micro-economic principles of the elasticity of demand, be familiar with basic concepts of marketing broadcast advertising, and be familiar with software programming and database management. Grantley argued strenuously that one skilled in the art must have many years of experience in the broadcast industry, going so far as to argue that only one with many years of experience in the radio industry could possibly understand that “‘revenue flash’ reports” are “‘weekly, monthly, and annual revenue forecast(s)’ sent to the parent entity, even though this meaning is clearly stated in the specification. ‘691 patent, col. 3, ll. 1-18. *See* Tr. at p. 9, l. 16 - p. 12.

Even after the inventor of the patents-in-suit, Mr. Shane Fox, admitted that “revenue flash” was merely a report of revenue, Grantley still maintained that only someone with several years of experience in the radio industry, perhaps as many as ten, would qualify. Grantley’s position is that experience in a similar industry dealing with sale of time-sensitive services, such as the airline industry, could not possibly qualify. Tr. at p. 14, l. 15 - p. 15, l. 15. This is somewhat disingenuous. In books he wrote in 1992 and 1997, Mr. Fox mentioned hotel operators, airlines, and other businesses as being well familiar with similar yield management techniques. *See* B. Shane Fox, PRICING & RATE FORECASTING USING BROADCAST YIELD MANAGEMENT, 3, 16, 129 (National Association of Broadcasters, 1992) and B. Shane Fox, BROADCAST REVENUE MANAGEMENT: PRICING INVENTORY MANAGEMENT IN TODAY’S BROADCAST ENVIRONMENT, 4, 6, 7-9 (National Association of Broadcasters, 1997). These books were incorporated by reference in the patents. ‘691 patent, col. 8, ll. 42-56.

Mr. Fox is understandably very proud of his inventions and his personal qualifications. In addition, Grantley's argument that the patents-in-suit are inordinately complex and contain many subtle terms (even though those terms are often clearly defined in the specification), makes it that much easier for Plaintiff to argue later, if necessary, that the court and/or jury must have erred. However, a patent must be drafted to be read and understood by one of *ordinary* skill in the art, rather than by the inventive genius. Infringement claims can not be predicated upon hidden meanings secretly ascribed to common words.

Grantley admitted in its brief that the testimony of a person experienced in software and database development, such as its expert Ms. Frederiksen, "regarding how technical terms would be understood by someone implementing the system (such as a programmer working at Mr. Fox's direction) is most appropriate." Pl. Cl. Const. Br., at 9, n. 6, [Doc. # 56, p. 15 of 47]. Ms. Frederiksen, whose vitae reveals no special familiarity with operation of broadcasting systems, was not reluctant to expound upon the disputed terms for forty pages in two separate affidavits.

The "Background of the Invention" makes it clear that computerized inventory management systems were well known in the prior art, with several versions commercially available. Many of the functions performed by these programs, and by the inventions of the patents-in-suit, had also been performed manually for many years. '691 patent, col. 1, ll. 9- col. 2, l. 62. Grantley's other expert confirms that gathering sales and revenue information, and the forwarding of revenue projections, are "common practice[s]." He states that the calculation of business on books "is a simple matter of adding up the orders which has been well known in the industry for decades." Aff. of McCord, Pl. Reply Cl. Const. Brief, ¶ 5 [Doc. #64, p. 3 of 6].

Based on the patents and their cited references, the tutorials, and the representations of the parties and their experts, the court finds that "one of ordinary skill in the art" covered by the

patents-in-suit is someone with the equivalent of a four year degree from an accredited institution (usually denoted in this country as a B.S. degree) with a concentration of courses in computer programming and data processing, and at least two years experience in the use and/or development of software and databases used by businesses for the pricing and sale of services from an inventory that is time sensitive (i.e., will have no value after a certain date). Additional degrees in fields such as marketing or software development might substitute for experience, while significant experience in developing and the use of such software and commercial database systems for broadcasting or similar enterprises might substitute for formal education.

III. CLAIM CONSTRUCTION²

A troubling aspect of this case is the submission by Clear Channel of entire paragraphs of certain claims for construction when there was really no dispute over the meaning of any particular word or term. The court expects the parties and their attorneys to limit the terms they ultimately submit for construction to those that might be unfamiliar or confusing to the jury, or which are unclear or ambiguous in light of the specification and patent history. *See United States Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997); *Orion IP, LLC v. Staples, Inc.*, 406 F.Supp.2d 717, 738 (E.D. Tex. 2005) (“although every word used in a claim has a meaning, not every word requires a construction.”). One hopes this was not merely an effort to pollinate the record with alleged error. Claim interpretation does not consist of defining a step in a claim by restating other limitations that are spelled out elsewhere in the claim. In spite of protestations of “confusion” from one side or the other, the court construes a claim from the

²The agreed definitions are set out in a separate order entered contemporaneously with this one.

point of view of the artisan of ordinary skill, not from the vantage point of the hyper-technical grammarian, who can not quite grasp the meaning of “is” in a particular context.

1. “Table.” Used in ‘691 patent, claims 1, 14; ‘187 patent, claims 1, 15; ‘824 patent, claim 1. [Parties’ Joint Claim Construction Chart, term # 1]

An example of the use of the term is seen in claim 1 of the ‘691 patent, stating in part, with the disputed term in bold:

1. A method for inventory management, comprising the steps of:

(b) generating a **table** of one or more inventory items that most closely correspond to the customer request using a price forecasting system. . . .

Grantley proposed, “a graphically arranged collection of data.” Clear Channel proposed, “a single visually viewable grid in a single window from which a computer-implemented selection can be made.” Clear Channel agreed that the use of the indefinite article “a” did not in itself indicate there could be only one table. Tr. p. 60, ll. 12-17. As a matter of common patent parlance “a” denotes “one or more that one.” *Norian Corp. v. Stryker Corp.*, 432 F.3d 1356, 1359 (Fed. Cir. 2005).

“Table” is used in the first sentence of the Abstract and in the first sentence of the “Summary of the Invention” at col. 3, l. 27. In both places, the full phrase is “a table or menu of one or more inventory items that most closely correspond to the customer request” After the table of inventory items is generated, a selection of one or more items is made by the customer or salesperson. ‘691 patent, col. 16, ll. 40-42, col. 3, ll. 34.

One possible layout of the computer screens displayed is shown in Figures 9 and 10 and described in the ‘691 patent at col. 14, ll.15-31. If there are many stations in the network, and a large and varied inventory of advertising spots are available, one skilled in the art would know

that the table or menu may comprise several successive windows. For example, the first window could show stations which may meet the customer's criteria, while successive windows would show more precise information as the customer's choice is refined.

A common example of such a hierarchical organization of information is seen in word processing programs, where the user selects a file, and then may have a choice of several sub-files, and then a choice of several documents. The '691 patent states that such a "hierarchy of screens which become progressively more specific as shown is most preferred." See '691 patent, col. 14, ll. 27-31. A claim construction that excludes a preferred embodiment is "rarely, if ever, correct." *Vitrionics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996). Here, there is no basis to accept Defendants' invitation to define "table" so as to exclude the preferred embodiment. The court will define this term as follows:

"Table" means: "an arrangement of items of information that assists in choosing one or more of the items."

2. "Yield management system." Used in '691 patent, claims 1, 3, 14; '464 patent, claim 1. [Parties' Joint Claim Construction Chart, term # 3a]

An exemplar use of the term "yield management system" is seen in claim 1 of the '691 patent, stating in part, with the disputed term in bold:

1. A method for inventory management, comprising the steps of:

(d) generating a price quotation associated with the selected inventory item using the price forecasting system, which price quotation has been predetermined by a **yield management system** using a pricing strategy.

Grantley suggests that this term means, "software or any hardware programmed to calculate prices for remaining inventory based upon historical information such as past trends and performance data, available inventory and a pricing strategy. A 'system' does not include a human being attempting to perform the task or function manually." Clear Channel proposes "a

software module that calculates and recalculates prices using each reservation and each order and designed to recalculate prices prior to the next price quote.” The specification describes:

a yield management system which produces a pricing forecast used to determine prices for sales of commercial time based on factors such as past trends and performance data which are updated periodically in order to maintain an accurate pricing model. See generally *Pricing & Rate Forecasting Using Broadcast Yield Management*, B. Shane Fox, published by the National Association of Broadcasters, 1992, and *Broadcast Revenue Management: Pricing Inventory Management in Today's Broadcast Environment*, B. Shane Fox, published by the National Association of Broadcasters, 1997.

‘691 patent, col. 2, ll. 8-18. The referenced books have similar definitions of yield management. Normally such books would be extrinsic evidence which should be used with care in determining how one skilled in the art would define a term; however, these volumes are incorporated into the patent by reference, *see* ‘691 patent, col. 8, ll. 50-56, and are therefore a form of intrinsic evidence.

“Incorporation by reference provides a method for integrating material from various documents into a host document...by citing such material in a manner that makes clear that the material is effectively part of the host document as if it were explicitly contained therein.” *Cook Biotech Inc. v. Acell, Inc.*, 460 F.3d 1365, 1376 (Fed. Cir. 2006)(internal quotation omitted). In order to incorporate material by reference, “the host document must identify with detailed particularity what specific material it incorporates and clearly indicate where that material is found in the various documents.” *Id.*(internal quotation omitted). In making such a determination, “the standard of one skilled in the art should be used to determine whether the host document describes the material to be incorporated by reference with sufficient particularity.” *Zenon Env'tl., Inc. v. United States Filter Corp.*, 2007 U.S. App. LEXIS 25892 at *17 (Fed. Cir. Nov. 7, 2007). “Ambiguous terms within the patent can sometimes be interpreted

in light of disclosures made in the material incorporated by reference.” *Neutrino Dev. Corp. v. Sonosite, Inc.*, 410 F. Supp. 2d 529, 537 (S.D. Tex. 2006).

The parties agreed that “system” should be defined as inelegantly stated by the patentee - “software or any hardware device which has been programmed to perform the same function, but does not include a human being attempting to perform the task or function manually.” ‘691 patent, col. 5, ll. 24-27. The opposing experts agreed that software without hardware does nothing. Except for certain limited purpose devices, hardware needs software to accomplish anything. Tr. at p. 101, l. 18 - p. 103, l. 6. Nevertheless, one skilled in the art would understand this definition of “system” to refer, in the context of these patents, to an appropriately programmed computer and not a person. Since “system” is so defined in the patents, and the definition comports with the understanding one of ordinary skill would have of computers, the court will incorporate that wording into the definition of the phrase. Similarly, the parties agree, and the specification states, that the “system” calculates and recalculates prices.

Given the parties’ agreement that this term describes a computer or computer program that calculates and recalculates prices, it becomes clear that the real dispute concerning this term, as with the next term to be considered, is not its meaning, but rather what the claims using the term teach. *See, e.g.*, Tr. at p. 95, l. 9 - p. 96, l. 3, p. 105, l. 4 - p. 106, l. 1, p. 109, ll. 10-20..

Clear Channel wants the information used for the calculations to necessarily include “each reservation and each order.” They argue that reservations are part of customer requests, which the yield management system calculates and recalculates. *See, e.g.*, ‘691 patent, col 1, ll. 10-13; col. 3, ll. 1-10; col. 12, ll. 1-62. However, Clear Channel disregards the fact that dependent claim 4 of the ‘691 patent is narrower in scope than independent claim 1, and further

requires “recalculating pricing data in [claim 1(g)] in a manner that takes both orders and reservations into account.” ‘691 patent, col. 17, ll. 21-22.

Were the court to accept Clear Channel’s construction that “yield management system” requires reservations because reservations are always part of the recalculation that the yield management system performs, it would run afoul of the doctrine of claim differentiation. While such canons are guides and not inflexible mandates, unless there is good reason to find otherwise, each claim defines a separate invention. *See, e.g., Jones v. Hardy*, 727 F.2d 1524, 1528 (Fed. Cir. 1984). A claim interpretation which would result in two claims having the same scope is presumptively unreasonable. *See Beachcombers v. Wildewood Creative Prods. Inc.*, 31 F.3d 1154 (Fed. Cir. 1994). If, as Clear Channel argues, reservations are always part of the recalculations performed by the yield management system, the limitation of claim 4 is meaningless because the recalculation would already take reservations into account.

Clear Channel also argues that the court’s construction of this term should require the method or system to “recalculate prices prior to the next price quote,” and points to several places in the specification which supposedly support this argument. *See, e.g.,* ‘691 patent, col. 3, ll. 40-50, 59-64; col. 4, ll. 7-11. However, Clear Channel does not include in their recitation the phrase from col. 4, ll. 54-55 which precedes the language they quote: “According to a preferred aspect of this method”

A court should avoid importing limitations from the specification into the claim terms, absent a clear disclaimer of claim scope. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005)(*en banc*)(citation omitted), *cert. denied*, 546 U.S. 1170, 126 S. Ct. 1332 (2006); *Gillette Co. v. Energizer Holdings, Inc.*, 405 F.3d 1367, 1375 (Fed. Cir. 2005). Where the specification uses language of preference, rather than requirement, the specification describes a preferred

embodiment rather than an essential step or element of the claim. *See Andersen Corp. v. Fiber Composites, Inc.*, 474 F.3d 1361, 1372-73 (Fed. Cir. 2007), *Honeywell Int'l v. ITT Indus., Inc.*, 452 F.3d 1312, 1318 (Fed. Cir. 2006). The language Clear Channel references is a preferred embodiment, in which the yield management system recalculates prices before the next price quote is generated. What Clear Channel cannot point to is any description in the specification that would tend to show that this is the only embodiment the invention was intended to encompass. There simply is no clear language of requirement.

Patent claims recite the outer boundaries or parameters of the invention. *S3 Inc. v. NVidia Corp.*, 259 F.3d 1364, 1369 (Fed. Cir. 2001). The purpose of claim construction is to determine what those outer boundaries are by construing disputed terms. *United States Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997)(“claim construction is a matter of resolution of disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims, for use in the determination of infringement.”). Arguments calculated to establish that an accused device does not infringe, or that a claim is obvious, are better presented at a later date during an infringement and/or invalidity analysis. The definition of every word and phrase does not have to incorporate all of the other limitations set out in a claim. On the other hand, there is no need to add language to the definition of a term which would expand the scope of the claim beyond the limitations it actually teaches. Each claim sets out what factors are included in the calculation or recalculation performed by the yield management system. The court will define these terms as follows:

“Yield management system” means: “a computer with a program that produces a pricing forecast used to determine prices for sales of commercial time based on factors such as past trends, performance data, and available inventory, updated with data from recent transactions in order to maintain an accurate pricing model. A system does not include a human being attempting to perform a task manually.”

“Yield management program logic” means “software that produces a pricing forecast used to determine prices for sales of commercial time based on factors such as past trends, performance data, and available inventory, updated with data from recent transactions in order to maintain an accurate pricing model.”

3. **“Recalculating pricing data with the yield management system in a manner consistent with a pricing strategy implemented by the yield management system, so that price changes caused by a reduction in available inventory due to the customer request are taken into account”** Used in ‘691 patent, claim 1 [Parties’ Joint Claim Construction Chart, term # 5].

“Recalculating pricing data with the yield management system in a manner consistent with a pricing strategy implemented by the yield management system, so that price changes caused by a reduction in available inventors [sic] due to the customer request are taken into account, wherein the recalculating system is configured to operate with sufficient frequency such that the effect of each customer order on pricing is taken into account before a price quote for a subsequent customer order is generated.” Used in ‘691 patent, claim 14 [Parties’ Joint claim Construction Chart, term # 5].

These terms, submitted at the request of Clear Channel, are entire steps from the respective claims. As with “yield management system,” Clear Channel did not seem to be seeking a definition of a particular word or term, *see* Tr. at p. 111, l. 14- p. 115, l. 20, and in fact agreed that the word “recalculating” itself meant “calculating again.” Tr. at p. 114, l. 23- p. 115, l. 5. The court will not enter an advisory opinion delineating all of the systems and methods that are not described by the claims. Arguments over whether a particular system infringes are inappropriate at the claim construction stage and will be dealt with at a later time. Likewise, the court will not undertake to rewrite paragraphs of claim language in a patent.

Clear Channel asserts that any “recalculating” terms should be read as being limited to “real time ” because, in Clear Channel’s view, the specification only discloses one preferred embodiment as to the time when the calculations should be performed - right after each inventory change. ‘691 patent, col. 4, ll. 15-21. Although the specification discloses a second situation in which “a slight delay in updating may also be acceptable,” Clear Channel argues that this is not a

preferred embodiment and is directly contrary to the optimum state the specification does disclose, namely a system where the recalculating performed after each order is done before the next order is placed. *See* ‘691 patent, col. 4, l. 22; co. 2, ll. 62-67.

Again, courts should avoid importing limitations from the specification into the claim terms, absent a clear disclaimer of claim scope. *Phillips*, 415 F.3d at 1323. Here, the specification of the ‘691 patent allows for a second embodiment in which a “slight delay” may be acceptable. Clear Channel can point to no place in the specification or anything in the prosecution history which would suggest that the preferred embodiment of updating right after an inventory change was meant to limit the claims to this embodiment, other than the language in the ‘691 patent, col. 2, ll. 62-67. This portion of the specification, however, states that a system where the recalculating is done before a subsequent order is placed is “optimum,” not that it is required or necessary for the system. Thus, absent any clear disclaimer of claim scope, this court will not import limitations from the specification into the claim language. The court will define this term as follows:

“Recalculating pricing data” means: “calculating pricing data again.”

4. “Revenue Projection” terms. [Parties’ Joint Claim Construction Chart, term # 7].

Several variations of this term are used in the patents, some of which are in means-plus-function claims:

“A computer implemented system for **generating revenue projections** for an enterprise”
Used in ‘464 patent, claims 1, 8;

“a system for **generating a projection of revenue** generated from sales” Used
in ‘464 patent, claim 8;

“means for generating a revenue projection” Used in ‘464 patent, claim 1;

“A system for **generating** and displaying **revenue projections** for sales of advertising”
Used in ‘464 patent, claim 11;

“to **generate a revenue projection** for some or all member stations.” Used in ‘824 patent,
claim 11;

“determining future **projected revenues** for each selected station based on orders” Used
in ‘824 patent, claim 13; and

“means for accessing traffic billing information in order to **generate a revenue
projection** . . .” Used in ‘187 patent, claims 12, 18.

The specification of the ‘691 patent indicates that “revenue projection” is a term with a well-known meaning in the art: calculating revenue totals for a future period of time. ‘691 patent, col. 3, ll. 14-22. The language of each claim itself defines the exact type of revenue projection being claimed. The language of the specification and the claims, therefore, support a construction of “revenue projection” which is more general: “a forecast of receipts of money.”

For claim 8 of the ‘464 patent, Grantley proposes “software or any hardware programmed to calculate the total dollar value of orders for future advertising time for multiple stations. The ‘system’ does not include a human being attempting to perform the task or function manually.” For the remainder of the claims, Grantley suggests that their meanings are self-evident from the words of the claims themselves, from the proposed construction of the term in claim 8 of the ‘464 patent, and from the construction of phrases like “billing system” and “means for generating a revenue projection.” Clear Channel suggests that the phrases are indefinite or not capable of being construed.

Since the parties have withdrawn the phrase “means for displaying revenue projections” as a term to be construed, the real dispute between the parties is the meaning of revenue projection as it is used in each particular context. For example, claims 8 and 11 of the ‘464

patent cover a “system for generating [and displaying] revenue projections.”³ Claim 11 of the ‘824 patent and claims 12 and 18 of the ‘187 patent use the phrase “generate a revenue projection.” Claim 13 of the ‘824 patent covers “determining projected future revenues.”

Indefiniteness

Validity analysis is not a regular component of claim construction. The oft-cited maxim that “claim language should generally be construed to preserve validity, *if possible*,” *Tate Access Floor Inc. v. Interface Arch. Res. Inc.*, 279 F.3d 1357, 1367 (Fed. Cir. 2002)(emphasis in original), applies only in the case where the court concludes, after applying all the available canons of claim construction, that the term at issue is still ambiguous. *See Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 911 (Fed. Cir. 2004).

In that situation, claims can be construed to preserve their validity “where the proposed claim construction is ‘practicable,’ is based on sound claim construction principles, and does not revise or ignore the explicit language of the claims.” *Generation II Orthotics, Inc. v. Medical Tech. Inc.*, 263 F.3d 1356, 1365 (Fed. Cir. 2001). As a general rule, however, claims

need not be plain on their face in order to avoid condemnation for indefiniteness; rather, what [the court will ask] is that the claims be amendable to construction, however difficult that task may be....[t]he test for indefiniteness does not depend on a potential infringer’s ability to ascertain the nature of its own accused product to determine infringement, but instead on whether the claim delineates to a skilled artisan the bounds of the invention.

Smithkline Beecham Corp. v. Apotex Corp., 403 F.3d 1331, 1340-41 (Fed. Cir. 2005).

Here, there is little dispute between the parties as to the meaning of “revenue projection” as it is commonly understood. The court should only undertake a validity analysis if it finds the

³The parties agreed that “system,” as defined in the specification, is “software or any hardware device which has been programmed to perform the same function, but does not include a human being attempting to perform the task or function manually.” ‘691 patent, col. 5, ll.23-37.

term ambiguous after employing the canons of claim construction. *See Liebel-Flarsheim*, 358 F.3d at 911. Such is not the case here. As noted *supra*, the specifications of the patents-in-suit incorporate by reference two publications by the inventor Mr Fox, which are described as exemplifying “sound economic principles and station management practices” that can be used to design demand curves. ‘691 patent, col. 8, ll. 42-56.⁴

These Fox references define, for example, what a yield management system does (“creates demand projections for each future broadcast day based upon the booking patterns of previous periods”), explains how broadcast companies develop pricing strategies, and describes the price forecasting process. *See* B. Shane Fox, *Pricing & Rate Forecasting Using Broadcast Yield Management* 1, 38-47, Chapter III (pp. 49-108) (National Association of Broadcasters, 1992). For example, the key to profitable pricing is to determine the level of cost which can profitably be incurred, “given the revenue that is expected to be earned from the number and type of advertisers.” *Id.* at 31. In short, both publications provide a methodology for predicting or forecasting prices and revenues, taking into account inventory, pricing history, and demand.

The proposed construction of “revenue projection,” then, is based on the specification and the references it incorporates, and explicitly takes into account the language of the claims. While the court is cognizant of Clear Channel’s concerns, broad claims are not indefinite where, as here, they can be construed in a non-ambiguous manner. *See, e.g., In re Gardner*, 427 F.2d 786, 788 (C.C.P.A. 1970)(“Breadth is not indefiniteness.”).

⁴“This [designing demand curves] can be accomplished by close adherence to sound economic principles and station management practices such as those set forth in *Pricing & Rate Forecasting Using Broadcast Yield Management*, B. Shane Fox, published by the National Association of Broadcasters, 1992, and *Broadcast Revenue Management: Pricing Inventory Management in Today’s Broadcast Environment*, B. Shane Fox, published by the National Association of Broadcasters, 1997, the contents of which are incorporated by reference herein.”

Prosecution Disclaimer

Clear Channel also argues that the patentee disavowed many of these common definitions of revenue projection during prosecution. Tr. at p. 41, ll. 9-13, p. 42, ll. 6- p. 44, l. 13.

Specifically, Clear Channel points to applicant's statement distinguishing his invention over a prior art reference (U.S. Patent No. 5,615,106 to Eder, hereinafter "the Eder patent") on the basis that "means for generating revenue projection for some or all media stations based upon orders for advertising time segments recorded in the traffic billing system for each selected media station" refers to the "amount of money represented by actual orders placed for future advertising time for multiple stations." 6/17/04 Statement of Applicant, Pl. Cl. Const. Br., Ex. S, at 6 [Doc. #56, p. 7 of 17]. According to Clear Channel, this means that revenue projection can only encompass the money deriving from selling future advertising time, and that the applicant disclaimed money deriving from accounts receivable (i.e., existing orders which have not yet been paid for).

In order to limit the scope of a claim, a prosecution disclaimer must be "both clear and unmistakable to one of ordinary skill in the art." *Elbex Video, Ltd. v. Sensormatic Elec. Corp.*, 2007 U.S. App. LEXIS 27399 at *11-12 (Fed. Cir. Nov. 28, 2007)(citing cases in which no clear disclaimer was present). The court does not think that such a clear disavowal occurred in this case. The applicant actually distinguished the prior art reference on the grounds that the forecast referred to by Eder was a "prediction, i.e., an attempt to extrapolate future sales and cash receipts based on past trends and history," rather than based on actual reservations, as the applicant's invention was. 6/17/04 Statement of Applicant, Pl. Cl. Const. Br., Ex. S, at 10 [Doc. #56, p. 11 of 17]. So long as the order or reservation occurred and was for future advertising time at the time it was placed, it appears to have been contemplated by the applicant and included in his

invention. The court will define this term as follows:

“Revenue Projection” means “a forecast of receipts of money”

5a. Various phrases including “access” or “accessing.” Used in ‘187 patent, claims 1, 4, 8, 9, 11, 15, 19; ‘824 patent, claims 1, 4, 8-11. [Parties’ Joint Claim Construction Chart, term # 8].

_____ Grantley proposed that “accessing” means “any suitable form of solely computer-executed data transfer including exchanging data directly between software modules, uploading a data file, or using a common memory, and may utilize a local area network or wide area network such as the Internet to transfer data.” Grantley also suggests that a “system for accessing” means “software or any hardware device programmed to access inventory information of multiple stations. A ‘system’ does not include a human being attempting to perform the task or function manually.”

Clear Channel contends that the word “accessing” is used in different ways, such that the term is indefinite. One of the “guideposts” of claim construction is that each word must be used with a consistent meaning throughout a patent. Like all guideposts, this is not an ironclad rule. “Accessing,” as used in the fields of computer science and communication systems, is context-sensitive. When discussing data being manipulated by a program (software), it may mean obtaining data from, or placing data into, a storage device. Accessing is also used to refer to establishing a logical (software) or physical (hardware) connection with a computer or communications system. *See* IEEE Standard Dictionary 5 (6th Ed. 1997).

In none of the claims at issue does the term “accessing” stand alone. Especially when construed in light of the specification references noted above, determining the meaning of the term is not an insoluble problem. *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1347 (Fed. Cir. 2005)(“Only claims ‘not amenable to construction’ or ‘insolubly ambiguous’

are indefinite...[t]hus, the definiteness of claim terms depends on whether those terms can be given any reasonable meaning.”). The court will therefore construe these terms as follows:

“**Accessing**” means: “any suitable form of solely computer-executed data transfer including exchanging data directly between software modules, uploading a data file, or using a common memory, and may utilize a local area network or wide area network such as the Internet to transfer data.”

“**System for accessing**” means “software or any hardware device programmed to access inventory information of multiple stations. A ‘system’ does not include a human being attempting to perform the task or function manually.”

5b. Various “means for accessing” phrases. Used in ‘187 patent, claims 12, 18; ‘464 patent, claims 4, 10, 11. [Parties’ Joint Claim Construction Chart, term # 9].

An example of term “accessing” is seen in claim 1 of the ‘187 patent, stating in part, with the disputed terms in bold:

a network permitting **access** to time segment inventory pricing information of multiple member stations; and a **system for accessing** inventory information of multiple stations in response to a customer request.

The term “means for accessing” is seen in claim 11 of the ‘464 patent, stating in part, with the disputed term in bold:

A system for generating and displaying revenue projections for sales of advertising time segments associated with future media broadcast programming by a plurality of media broadcast stations. . . the system comprising:

means for accessing the billing system of the media broadcast stations from a headquarters location via a computer network. . .

Means-Plus-Function Terms

Where a claim includes the word “means,” a presumption is invoked that § 112(6) applies. *See Harris Corp. v. Ericsson Inc.*, 417 F.3d 1241, 1248 (Fed. Cir. 2005). This presumption may be rebutted if the claim recites “sufficient structure for performing the claimed function” *Id.*

Determining the claimed function and the corresponding structure of means-plus-function clauses are matters of claim construction, so it is appropriate to deal with these issues at the *Markman* stage. *WMS Gaming Inc., v. Int'l Game Tech.*, 184 F.3d 1339 (Fed. Cir. 1999). Claim construction of a means-plus-function limitation involves two steps. *See Medical Instrumentation and Diagnostics v. Elekta AB*, 344 F.3d 1205, 1210 (Fed. Cir. 2003). The court must first identify the particular claimed function, and then look to the specification and identify the corresponding structure for that function. *Id.* “Under this second step, ‘structure disclosed in the specification is corresponding structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim.’” *Id.* (citations omitted). “While corresponding structure need not include all things necessary to enable the claimed invention to work, it must include all structure that actually performs the recited function.” *Default Proof Credit Card System, Inc. v. Home Depot U.S.A., Inc.*, 412 F.3d 1291, 1298 (Fed. Cir. 2005).

The parties agree, and the court finds, that the term “means for accessing” is governed by 35 U.S.C. § 112, ¶ 6, and that the functions are the following: “accessing traffic billing information” (‘187 patent, claims 12 and 18); “accessing the inventory of multiple stations” (‘464 patent, claim 4); “accessing the billing system of the media broadcast stations from a headquarters location” (‘464 patent, claim 11); and “communicating via a computer network to access the billing system of each selected station” (‘464 patent, claim 10). The dispute is with respect to the corresponding structure. Clear Channel argues that the term is indefinite or not capable of being construed. Grantley suggests that the structure is:

Software or any hardware device which has been programmed to perform the function of accessing inventory including transferring data through a network, such as the Internet, a local area network or a wide area network, that has been configured as depicted in Figure 7, Figure 8, or as a hybrid system wherein each station 51 has its own price forecasting system software which accesses a common yield management system and traffic billing

system through the network. The software or hardware device's programming may include either directions for polling some or all member stations, or programming to allow a master database to mirror the contents of individual databases and be updated either periodically or whenever an individual database is updated.

Since this function is computer implemented, the patent must disclose an algorithm to be performed by the computer to accomplish the recited function. *WMS Gaming Inc.*, 184 F.3d at 1349. This does not mean that the patentee must disclose specific source code for the computer. The term "algorithm" is also not limited to a formula of mathematical symbols. For example, the steps, formula, or procedures to be performed by the computer might be expressed textually, or shown in a flow chart. *See Application of Freeman*, 573 F.2d 1237, 1245-46 (C.C.P.A. 1978)(citing cases). Under 35 U.S.C. § 112 ¶ 6, the structure, in this case a computer which executes an algorithm, must be sufficiently disclosed so that one of ordinary skill in the art can determine the limitations on what is claimed. *See Budde v. Harley-Davidson, Inc.*, 250 F.3d 1369, 1381-82 (Fed. Cir. 2001); *In re Dossel*, 115 F.3d 942, 946-47 (Fed. Cir. 1997).

The Federal Circuit in *Dossel* noted that the specification did not "disclose exactly what mathematical algorithm will be used" *Id.* at 946. However, the court stated that the specification described a device that receives data from two sources and then "computes, from the received data, the current distribution by mathematical operations including a matrix inversion or pseudo inversion, and then outputs the result to a display." *Id.* The specification also said "'known algorithm' could be used to solve the standard equations which are known in the art." *Id.*

The '691 patent specification identifies structure that accomplishes the function of accessing as follows:

- a. "[A] basic Internet browser program with password access at a web site maintained by the headquarters location." '691 patent, col. 13, ll. 21-24, Fig. 7;

b. As shown in Fig. 8, “a number of stand-alone inventory management systems **62** and databases **63**, one for each station **51**, may “communicate with a central server **64** through a network **52** to maintain a master database **66**.” ‘691 patent, col. 13, ll. 53-57.

c. “[S]oftware modules that exchange information either directly of [sic] by means of uploadable data files . . . Where these program modules can access a common memory, the steps of sending information from one module to another may amount to simply updating the values of variable in one section of memory and then accessing the updated variable with another module within the program. ‘691 patent, col. 16, ll. 22-24, 26-31;

d. “[A] single software program with subroutines for performing the functions indicated.” ‘691 patent, col. 16, ll. 25-26.

In the patents-in-suit, the term is used, and must be read, in context as one of ordinary skill in the art would read it. These references in the patents simply describe the transfer of information. One could argue that the specification does not identify the precise path along which the information travels, nor the source code or precise algorithm with which to accomplish this. But the “means for accessing” clauses do not attempt to describe some complicated calculation or novel mode of accomplishing the function described. Connecting computers to a central server and moving information from one database to another are basic concepts in the field of computer science. Even without a precise mathematical algorithm, these descriptions, together with Fig. 7 and 8, would allow one of ordinary skill in the art to accomplish the functions stated in the various claims without undue experimentation. *See Dossel*, 115 F.3d at 946-47; *Aff. of Frederiksen*, Pl. Reply Cl. Const. Br., ¶ 31 [Doc. # 65, p. 11-12 of 25].

6. Various “means for displaying” phrases. Used in ‘464 patent, claims 4, 8, 11.
[Parties’ Joint Claim Construction Chart, term # 10].

In their briefs, the parties initially disputed the meaning of the terms “means for displaying the revenue projections” (‘464 patent, claim 8) and “means for visually displaying the revenue projections” (‘464 patent, claim 11). At the hearing, the parties agreed that, subject to

the court's construction of "revenue projection," this term no longer needed to be defined. Tr. at p. 39, l. 20- p. 40, l. 5. Also as agreed by the parties, the corresponding structure is "the screen display or printed copy created via computer hardware." Tr. at p. 40, ll. 8-16.

The remaining "means for displaying" term to be construed is bolded in the following excerpt from claim 4 of the '464 patent:

The system of claim 1, wherein the price forecasting system further comprises **means for... displaying available time segments from multiple stations that meet customer specified criterion.**

The parties agree, and the court finds, that this term is governed by 35 U.S.C. § 112, ¶ 6, and that the function is "displaying available time segments from multiple stations that meet customer specified criterion." The dispute is with respect to the corresponding structure. Grantley suggests "computer implemented user interface such as a screen display or a printed copy created via computer hardware." Clear Channel suggests that the term is indefinite or not capable of being construed.

Although the parties did not address this particular term at the hearing, the court finds that the "means for displaying available time segments" has the same corresponding structure as "means for displaying revenue projections," namely "the screen display or printed copy created via computer hardware." *See* '464 patent, col. 14, ll. 11-27; Fig. 9 & 10.

7. "Selecting an item from the table." Used in '691 patent, claim 1. [Parties' Joint Claim Construction Chart, term # 13].

In their briefs, the parties initially disputed the meaning of this term. Once it became clear at the hearing that a human makes a choice of an item and enters the choice into a computer, the parties realized that any conflict was illusory. *See* Tr. at p. 79, l. 7 - p. 80 l. 24. The claim language is not complicated, and the specification makes clear that the customer, or perhaps the

sales agent with input from a customer, chooses an item from the computer-generated table and enters the choice in the computer. *See* ‘691 patent, col. 3, ll. 27-40, col. 14, ll. 15-24. The court will define this term as follows:

“Selecting an item from the table” means: “a choice made by the customer and then input into the computer by the salesperson , or possibly by the customer in the case of an on-line purchase.”

8. **“Program logic for generating a table of available time slots and dates. . . .”** Used in ‘187 patent, claims 4, 19; ‘824 patent, claim 4 [Parties’ Joint Claim Construction Chart, term # 15].

One use of this term is seen in claim 4 of the ‘187 patent, stating in part, with the disputed term in bold:

The inventory management system of Claim 3, wherein the system for accessing inventory information of multiple stations in response to a customer request further includes **program logic for generating a table of available time slots and dates, and includes a price quotation for each time slot on each date.**

Indefiniteness

Claims 1 through 4 of the ‘187 patent and the ‘824 patent are almost identical except that the ‘187 patent claims systems and the ‘824 patent claims methods. Claim 4 of each patent is dependent from claim 1 of its respective patent.

The first element of claim 1 of both patents describes the generation of “ a visually viewable table of one or more advertising time segments that meet specified customer request criteria.” ‘187 patent, col. 16, ll. 37-39; ‘824 patent, col. 16, ll. 33-35. The last element of claim 1 in both patents refers to accessing or permitting access to “inventory information of multiple stations in response to a customer request so that the table of inventory time segments generated by the price forecasting program logic” ‘187 patent, col. 16, ll. 50-55; ‘824 patent, col. 16,

ll. 46-51. The table in this last step of both claims is the same table referred to in the first step of the respective claims.

Claim 4 of each patent, which is dependent from claim 1 of its respective patent describes “generating a table of available time slots and dates, and includes a price quotation for each time slot on each date.” ‘187 patent, col. 16, ll. 66-68; ‘824 patent, col. 16, ll. 60-62. Clear Channel argues that because the specification only refers to one program logic and to generating one table of available time slots, the disputed phrase is indefinite because it describes a second table and a second program logic, which are not defined or disclosed by the specification. Tr. p. 84, l. 9 - p. 85, l. 9. This seems to be straining for confusion.

The “table of available time slots and dates” mentioned in each claim 4, is nothing more than the “table of one or more advertising time segments” of their respective claims 1. What else would a table of “advertising time segments,” also referred to in each claim 1 as “the table of inventory time segments,” contain if it did not have “available time slots and dates”?

Grantley correctly asserts that the difference between the respective claims 1 and claims 4 is the limitation of including a “price quotation for each time slot on each date” recited in each claim 4. ‘187 patent, col. 16, ll. 67-68; ‘824 patent, col. 16, ll. 61-62.

Clear Channel’s argument that the doctrine of claim differentiation mandates that claims 1 and 4 of the two patents must describe different tables falls short. Claim differentiation only requires that at least one limitation differ, *Kraft Foods, Inc. v. Int’l Trading Co.*, 203 F.3d 1362, 1368 (Fed. Cir. 2000). There is a limitation present in each claim 4 that is not present in each claim 1, namely the further requirement of a price quotation for each time slot. There is no support for Clear Channel’s conclusion that the tables recited in claim 1 of each patent must be different from the tables mentioned in the respective claim 4 of each patent.

“System” or “Method” of Inventory Management

Clear Channel also argues that claim 4 of the ‘824 patent references a “system” for accessing inventory information while claim 1, on which claim 4 is ultimately dependent, claims a “method” of inventory management. Grantley contends that this is a mere typographical error and that the claim should read “The method of claim 3, comprising accessing inventory information...” ‘824 patent, col. 16, l. 58; Tr. at p. 88, ll. 7-8.

As a general rule, a court may act to correct an error in the patent by interpreting that patent where no certificate of correction has been issued only where “(1) the correction is not subject to reasonable debate based on consideration of the claim language and the specification and (2) the prosecution history does not suggest a different interpretation of the claims.” *Novo Indus. L.P. v. Micro Molds Corp.*, 350 F.3d 1348, 1354 (Fed. Cir. 2003).

There is little, if any, doubt that the “system for accessing inventory information” in claim 4 refers to the “method of inventory management...comprising...access to inventory information of multiple stations” recited in claim 1. ‘824 patent, col. 16, ll. 27-32, 46-47, 58-59. To begin with, in contrast to the ‘187 patent, the claims of which describe only systems, all of the claims of the ‘824 patent are method claims. Similarly the Abstract of the ‘824 patent states that the invention provides a “*method...for inventory management.*” [Emphasis added].

Claim 4 is ultimately dependent on claim 1, and claim 1 describes only a method. Only methods are described in the specification. In claim 4 “the system for accessing inventory information . . .” refers to nothing in the claims upon which it is dependent. However replacing “system” with “method” makes the phrase perfectly clear. Nothing in the specification nor in the prosecution history even hints that “system” in claim 4 is anything other than a typographical error. Claim 4 of the ‘824 patent will now read:

The method of claim 3, wherein the method for accessing inventory information of multiple stations in response to a customer request further includes program logic for generating a table of available time slots and dates, and includes a price quotation for each time slot on each date.

No further construction by the court is necessary.

IV. CONCLUSION

The jury shall be instructed in accordance with the court's interpretation of the disputed claim terms in the '691, '187, '824, and '464 patents.

So **ORDERED** and **SIGNED** this **8** day of **January, 2008**.

A handwritten signature in black ink, appearing to read "Ron Clark", is positioned above a horizontal line.

Ron Clark, United States District Judge